

Title: Monitoring Domestication in the YKFP Spring Chinook Program

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Domestication, genetic adaptation to the hatchery environment, is a major concern in using hatcheries for conservation purposes. The concern is that by becoming more adapted to the hatchery environment, a population undergoing hatchery culture will become less fit in the natural environment. The monitoring effort for the YKFP spring chinook program includes an ambitious domestication monitoring effort. The basic experimental design involves the comparison at several adult and juvenile traits of the supplementation (S) line (the Upper Yakima spring chinook population under ordinary supplementation efforts) with a hatchery control (HC) line founded from first-generation hatchery returns of the Upper Yakima population, and with a wild control (WC) line, the Naches River spring chinook population. The HC line is cultured exactly the same as the S line except that while the S includes natural spawning, the HC line is never allowed to spawn in the wild. Hatchery fish began returning as adults to the program in 2001, and spawning to found the HC line began in 2002. This spring HC juveniles were released for the first time. Progress has been slower with the inclusion of the WC line in the study. The evaluation of several traits involves incubation and short-term hatchery rearing of WC juveniles, but fish health concerns require the adults to be certified disease-free before their progeny can be moved to CESRF. This requirement has created the need for an offsite incubation system. Last year a misting incubation system was developed and tested. The system will be used to incubate WC eggs at Nelson Springs this year.